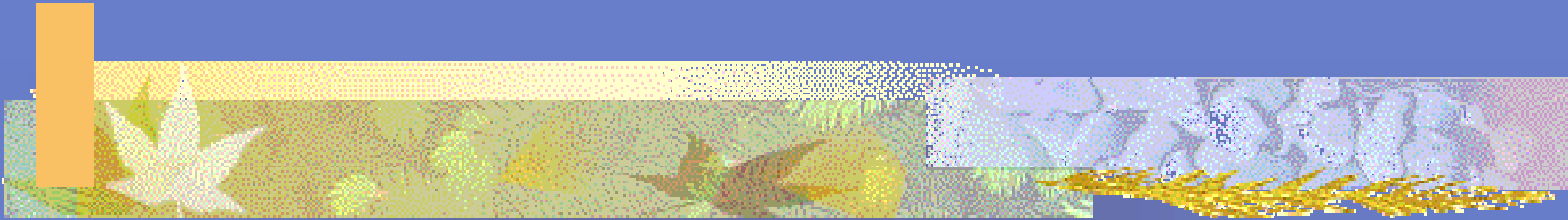


# Linkages Between Social, Political and Economic Activities and Coastal Louisiana's Miss. River Delta Ecosystems:

## Pollution and Nutrient Overloads



Shirley Laska, University of New Orleans  
Darryl Malek-Wiley



# Outline

- Case #1 Local Sources/Impacts/  
Interventions/Outcomes in the Pontchartrain Basin
- Case #2 Distant (Upstream) Sources/Interventions  
and Local (Basin and Gulf) Impacts/Outcomes
- Identifying Relevant Human Activities and  
Developing Metrics

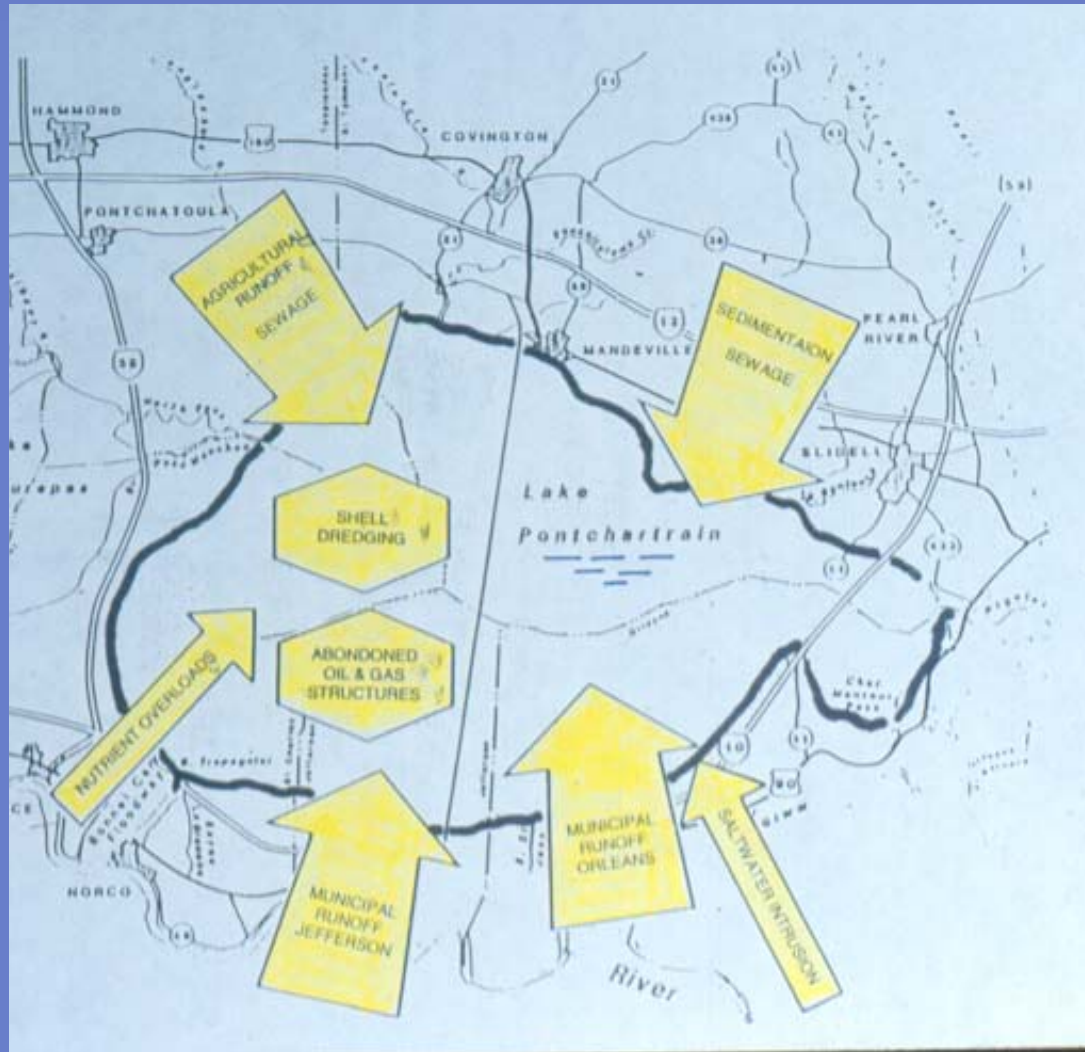


# Pollution in the Pontchartrain Basin

# Lake Pontchartrain Basin



# Pollution Sources





# Shell Dredging



# Sewage Discharge





## Cracks Are Common in Old Pipe



- May Lead to Structural Failure
- Allows Groundwater to Enter (Infiltrate) Sewer



# Urban Runoff



# Storm Water Discharge



# Agricultural Runoff





# Livestock Runoff







# Impacts

# Polluted Rivers



# Algal Blooms



# Dead Zones/ Fish Kills





# Beach Closings





# Interventions

# LPBF Created in 1989





# Lake Pontchartrain Basin Foundation

- Initially outgrowth of Causeway Commission, public authority
- Later given autonomous n.g.o. status by state legislature
- Funded by EPA grants, citizen contributions, foundations
- Strong promotion and citizen involvement efforts



# Outreach/ Public Events



Fishing Rodeo



“Back to the Beach”



# Public Participation





# Comprehensive Management Plan

## Blueprint for Pontchartrain's restoration

Developed jointly by 98 entities:

- Citizen groups
- Local, state, and federal agencies
- Parish and municipal governments
- Business community/ chambers
- Agriculture community
- Commercial and recreational fishing
- Universities



# Water Quality Monitoring





# Education/Outreach



# Repairing Sewer Lines



# Livestock Waste Lagoon Construction





# Sea grass Planting





# Tree Planter/ Reforestation



# Big Branch Refuge Created





# Bringing Back the Wetlands

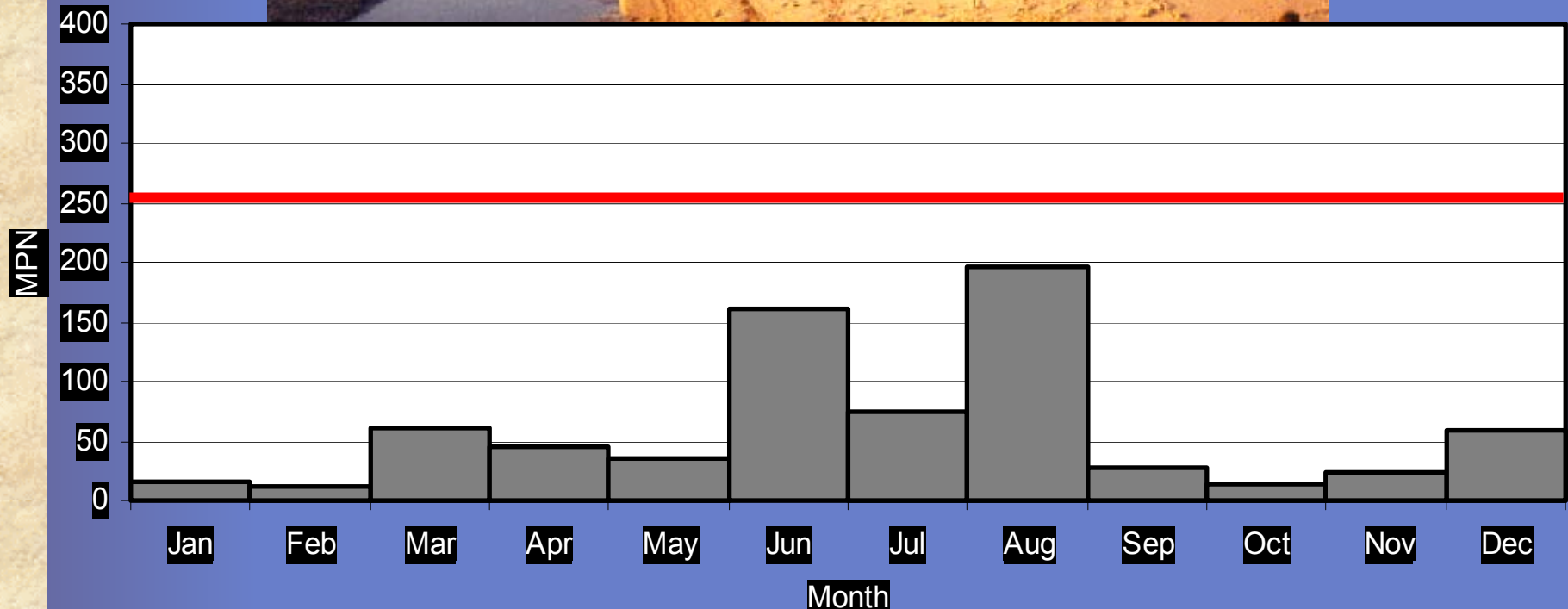




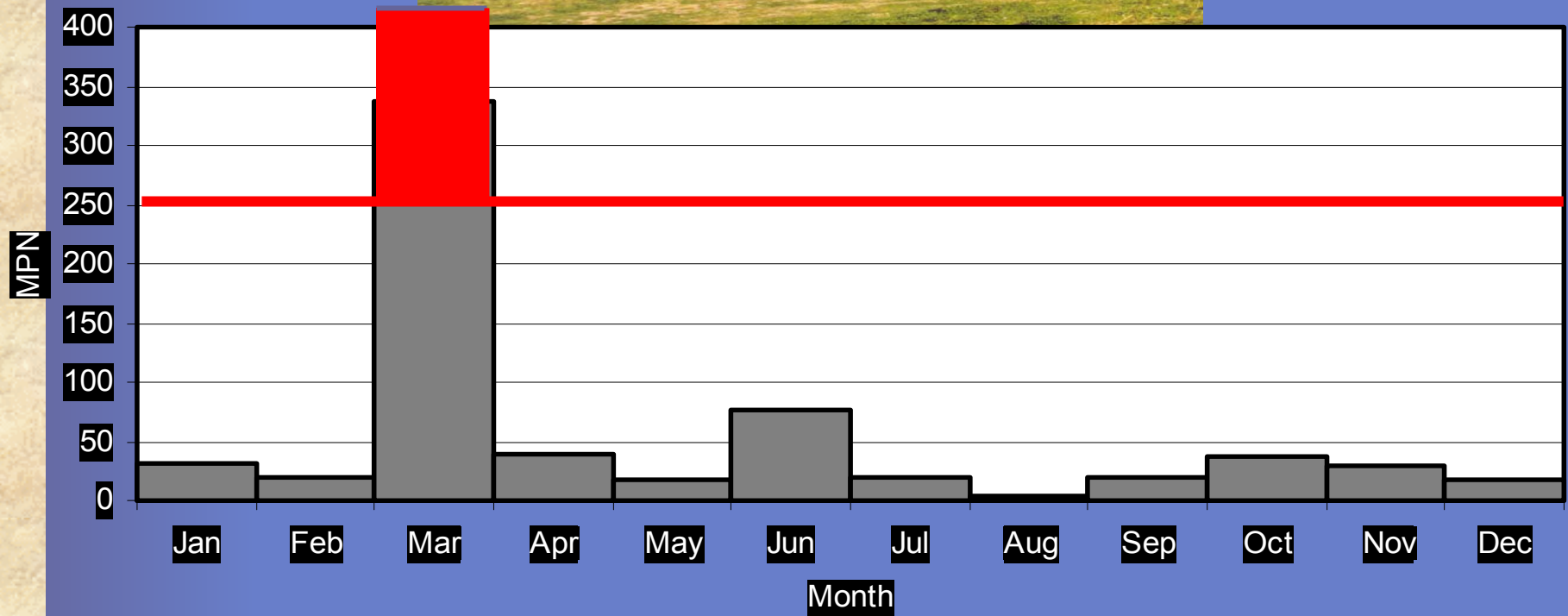
# Outcomes



# Fontainebleau Beach



# Pontchartrain Beach





Water is clarified

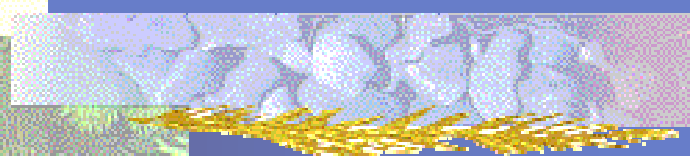
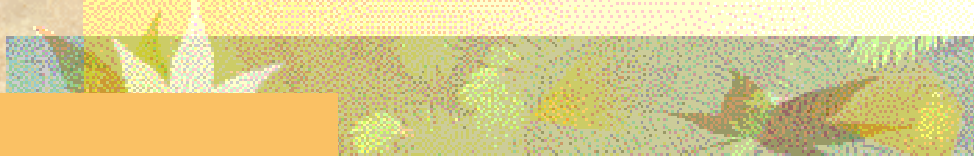


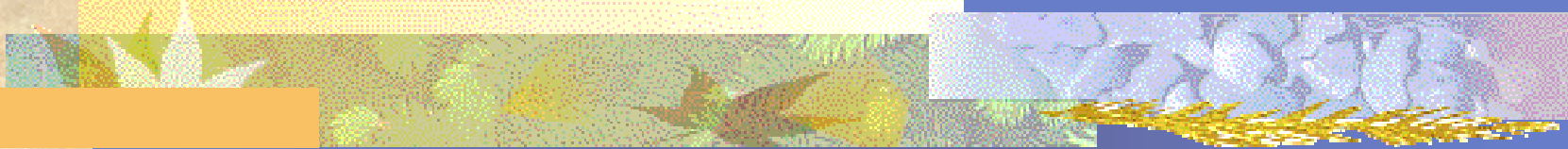


# Wildlife returns (Manatee)









# Recreational uses restored





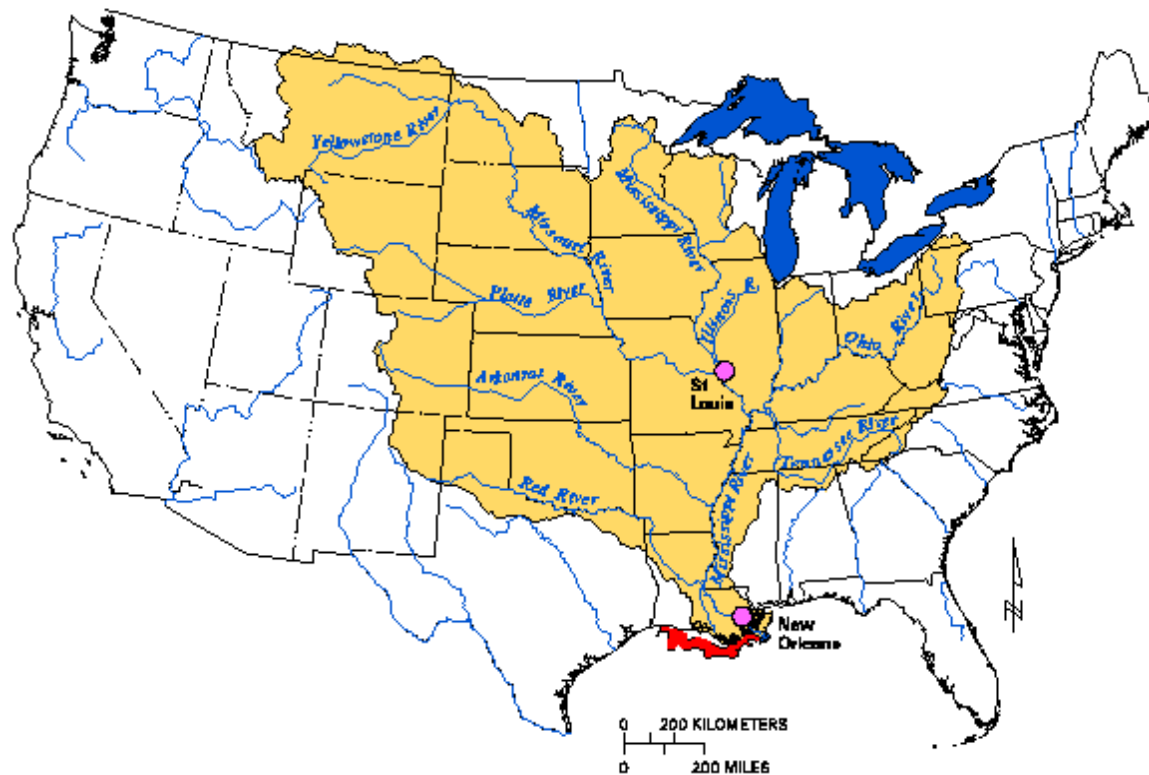


# Hypoxia in the Pontchartrain Basin and the Gulf of Mexico



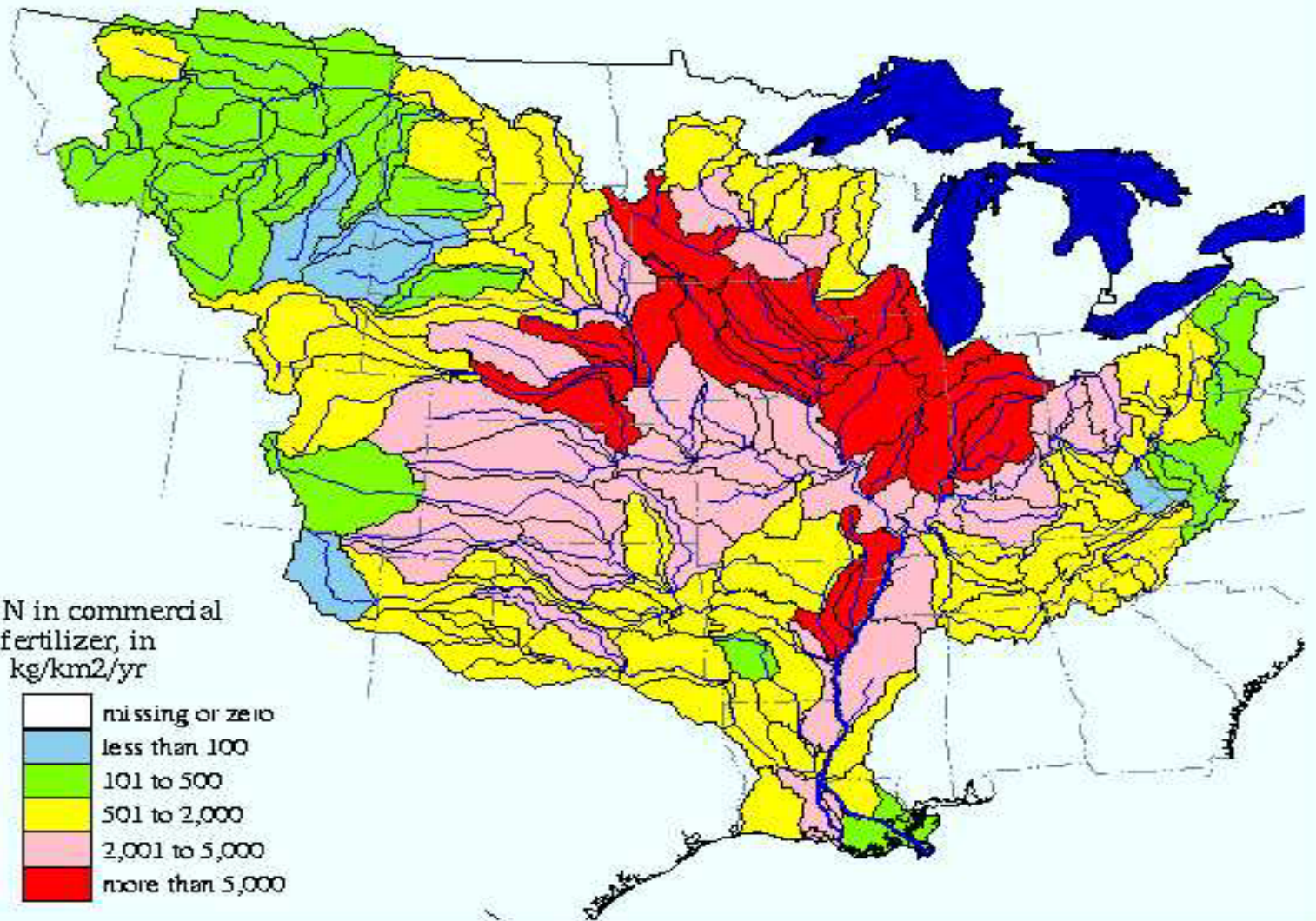
# Sources

# MISSISSIPPI – ATCHAFALAYA RIVER BASIN

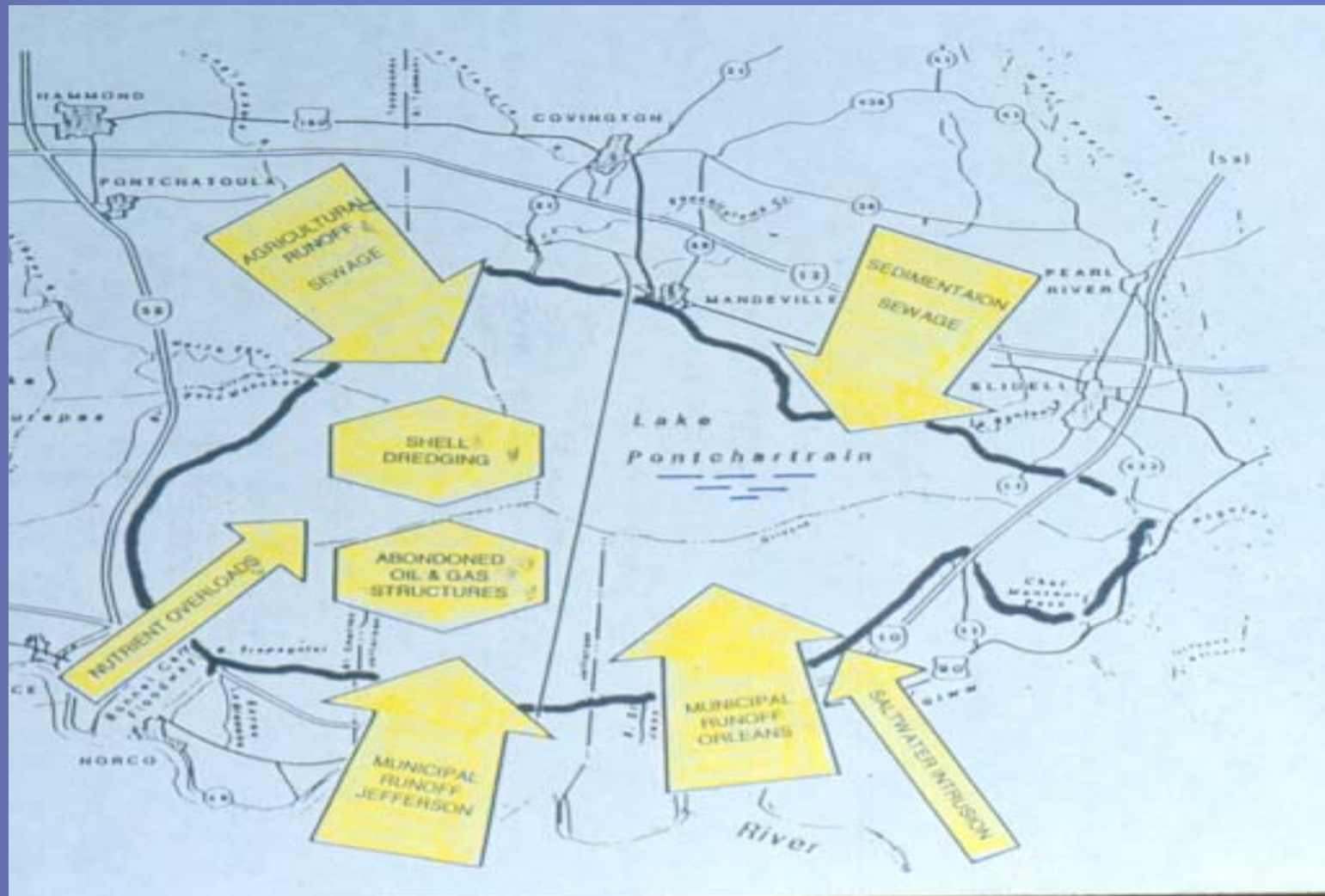




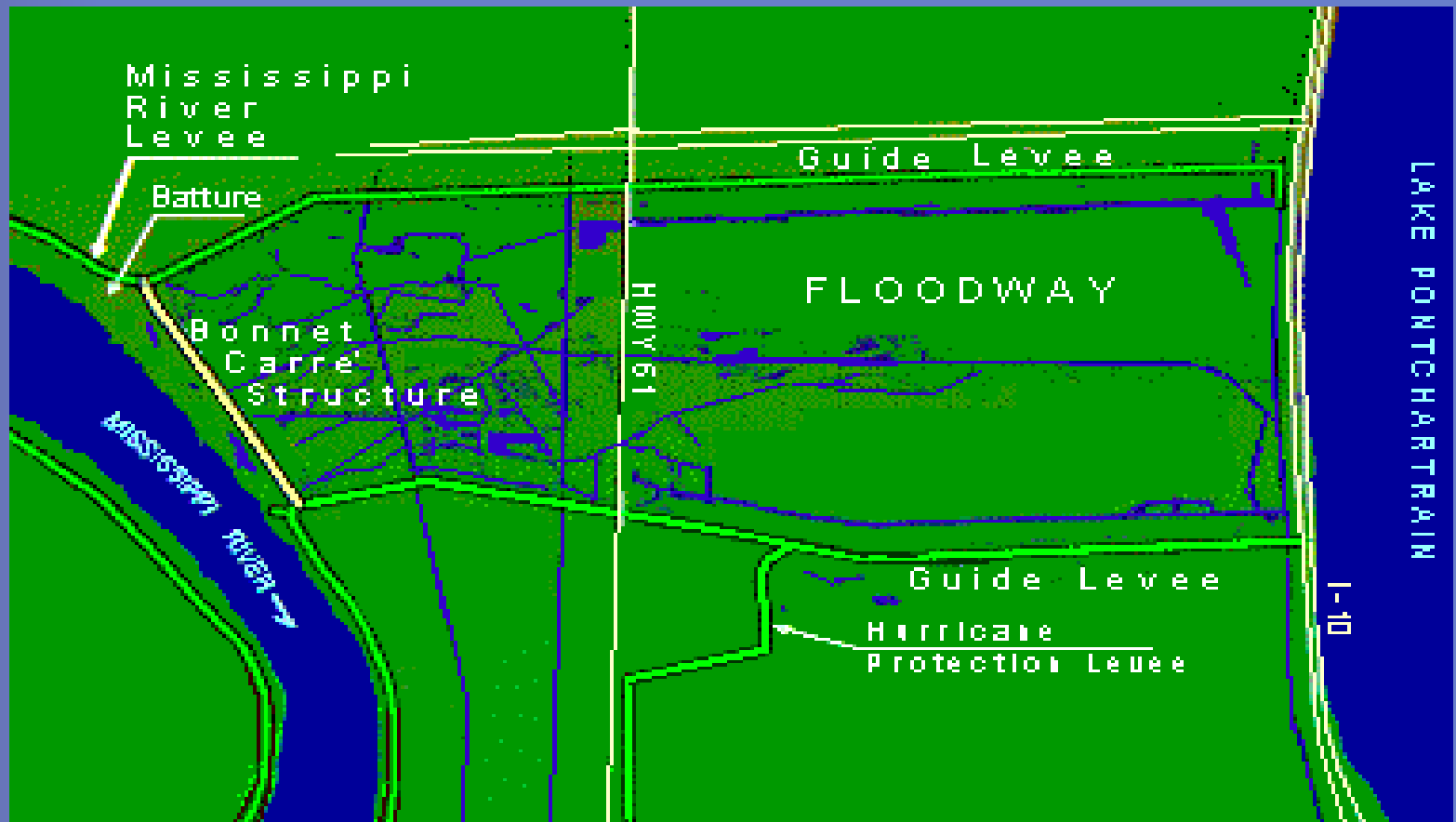
N in commercial  
fertilizer, in  
kg/km<sup>2</sup>/yr



# Pollution Sources



# Pathway between River & Lake





# Opening spillway gates



# Water flowing from Miss. River to Basin





# Agricultural Runoff





# Livestock Runoff

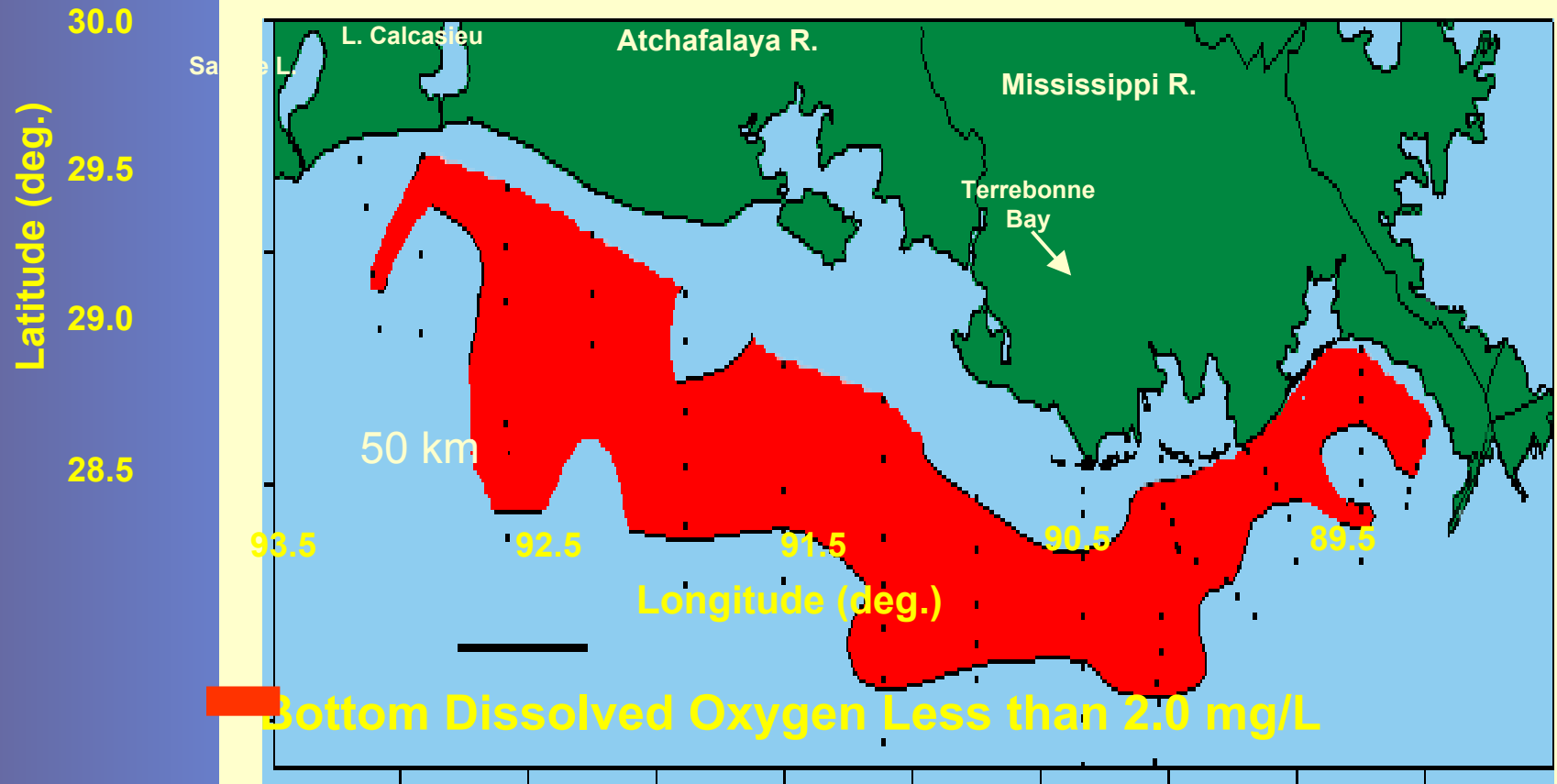




# Impacts

- Creation of hypoxic zone

# July 23-28, 1999, Shelfwide Oxygen Survey



(Rabalais, Turner & Wiseman)





# Impacts

- “Far afield” effects

# Gulf Shrimping



# Menhaden fishery





# Basin Fishing



# Related fishery industries



# Mainstay of Louisiana diet







# Interventions



# Interventions

## Adoption of plan

- Implementation of steps
  - Including creation of sub basin committees
- Commitment to voluntary, locally led, non-regulatory, practical and cost effective actions

Farm bill funding of best management practices related to run off such as no till drill planting







# Hoped-For Outcomes

- Reduction in size of hypoxic zone
  - Restoration of local watersheds throughout the Mississippi River watershed
- General improvement of Quality of Life throughout the watershed



# Identifying Relevant Human Activities and Developing Metrics



# Social, Political, Economic Indicators

- Measures of sources
- Measures of impacts
- Identify and measure successful interventions
- Measures of social and political outcomes





# Relevant Concepts

- Enhancement of attachment to environment
- Utilizing of attachment to specific related symbols, activities to generate participation
- Broadly shared learning process about cause/effect linkages
- Aggressive mobilization of citizens/governments
- Commitment of resources
  - to mobilize concern and awareness
  - to develop and implement alternative “best practices”
- To regulate with commitment to enforcement